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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,234	02/15/2002	Kenichiro Sugiyama	500.41195X00	7852

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EXAMINER

WONG, KIN C

ART UNIT PAPER NUMBER

2651

DATE MAILED: 07/26/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,234

Applicant(s)

SUGIYAMA ET AL.

Examiner

K. Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 7-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because of idiomatic English (see line 4 of the instant Abstract for details). Correction is required. See MPEP § 608.01(b).

Claim Objections

Claim 1 is being objected for failing to conform with the current U.S. practice. The claim appears to be a literal translation into English from a foreign document and is with some grammatical and idiomatic errors (i.e. see lines 4-5 of claim 1 for details). Appropriated correction is required.

The term "ramp road" in claim 2 is being objected for terminology inconsistency. The examiner has interpreted the term "ramp road" as "loading ramp or the ramp or loading path" in this Office Action. The interpretation is in accordance with the instant specification on page 8, lines 19-24. Appropriated correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims (1-6) are rejected under 35 U.S.C. 103(a) as being unpatentable over Emo et al (6091559) in view of Hirano et al (6504663).

Regarding claim 2: Emo et al discloses a magnetic disk device (as depicted in figure 14 of Emo et al) including:

- a magnetic disk (element 42 in figure 14) for storing information;

- a spindle motor (see col. 23, lines 20-26 of Emo et al for driving the magnetic disk to rotate;

- a magnetic record head (element 35 in figure 14 and see associated descriptions for details) for recording information on the magnetic disk;

- a magnetic reproduce head (element 35 in figure 14 and associated descriptions for details) for reproducing information from the magnetic disk;

- an actuator (element 34 in figure 14 and see associated descriptions for details) having a suspension (or load beam – element 30 in figure 14 and see associated descriptions for details) for supporting the magnetic heads to be movable on the magnetic disk and drive means for driving the suspension;

- a ramp road (loading ramp or cam - element 39 in figure 14 and see associated descriptions for details) for letting the magnetic heads retreated from the magnetic disk be rested thereon; and

- a stopper (in col. 5, lines 24-33 where describes the crash stop functions which includes the stopper for limiting the actuator movements) for limiting the movable range of the actuator.

However, Emo et al is silent on wherein a recording region detecting signal (lead-in signal which is prior to the positioning information signals and as in accordance with page 5, lines 1-3 of the instant specification) is written on the magnetic disk just when

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the magnetic heads are loaded on the magnetic disk that has no positioning signal recorded for positioning the magnetic heads, and a track region on the magnetic disk is determined on the basis of the position at which the recording region detecting signal has been written during the head loading process. Hirano et al is relied on for the teaching of the lead-in signal for the positioning signal (or recording region detection signal without the position information signals) during the head loading process (see col. 8, line 27 to col. 9, line 4 and see figure 3 of Hirano et al).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the format of Emo et al to including the lead-in signal (or the recording region detection signal) as taught by Hirano et al. The rationale is as follows: one of ordinary skill in the art would have motivated to provide synchronization and servo timing for the positioning information signal as suggested in col. 2, lines 52-65 of Hirano et al.

Regarding claim 1: method claim 1 is drawn to the method of using the corresponding apparatus claimed in claim 2. Therefore method claim 1 corresponds to apparatus claim 2 and is rejected for the same reasons of obviousness as used above.

Regarding claims 3-4: Emo et al fails to mention that wherein the track region is selected to be an interval between the position at which the recording region detecting signal has been written (lead-in signal), and, a position at which the magnetic heads are stopped by the stopper (Emo et al depicted the position where the stopper limits the moving range of the VCM (or actuator) in figures 4B and 16 (see associated descriptions for details) or between the ramp and position information area (or servo

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region of the track). Hirano et al is further relied for the teachings locations of the lead-in signal between the loading area and the position information signal area of the track. Hirano et al depicts in figures 3 and 5A-5C (see associated descriptions for details) for placing of the recording region detection signal between the landing area (zone) and position information signal area wherein the lead-in signal (in the loading zone or area) is prior to the position servo (information) signal.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the format the loading area (zone) of Emo et al to including the lead-in signal (or the recording region detection signal) as taught by Hirano et al. The rationale is as follows: one of ordinary skill in the art would have motivated to provide synchronization and servo timing for the positioning information signal as suggested in col. 2, lines 52-65 of Hirano et al.

Regarding claim 5: Emo et al teaches that wherein a write current (or value) is caused to flow to the magnetic record head in only a time interval in which the magnetic head is loaded from a constant position on the ramp road (loading ramp) onto the magnetic disk, thereby writing the recording region detecting signal at a predetermined position on the magnetic disk (in col. 4, lines 23-36 where describes the write current value control for servo writing when the inner/outer crash stops are detected).

Regarding claim 6: Emo et al fails to mention the calculation for the loading time interval that based on the loading distance and the loading speed on the disk (or lead-in time interval). Hirano et al is further relied on the lead-in calculation that based on the

loading distance and the loading speed (see col. 1, line 66 to col. 2, line 51; col. 6, lines 26-64; and; col. 7, line 46 to col. 9, line 4 of Hirano et al).

It would have been further obvious to one of ordinary skill in the art at the time of the invention was to modify the loading time interval with a lead-in time as taught by Hirano et al. The rationale is as follows: one of ordinary skill in the art would have motivated to provide synchronization and servo timing for the positioning information signal as suggested in col. 2, lines 52-65 of Hirano et al.

Allowable Subject Matter

Claims (7-9) are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

regarding claims 7 and 8: the prior art or record neither discloses nor suggests the servo writing in a disk drive that based on the detection of the lead-in signal (recording region detecting signal) in the loading area (or zone) prior to writing the servo position information signal.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Koga et al (5184257) and Yarmchuk (6344942) are cited for servo writing. Angelo et al is cited for servo writing on the loading area.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (703) 305-7772.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (703) 305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kw

15 Jul 04

A handwritten signature, likely of the examiner, consisting of stylized, overlapping loops and a long vertical stroke extending downwards.